		Smart Ski	es
		2004 Mathem	
		Grade Expecta	ations
Vermont Mathemati	ics		
Grade 5			
Activity/Lesson	State	Standards	
Fly by Math	VT	MA.5.M5:16	Determines elapsed and accrued time to the nearest minute.
Fly by Math	VT	MA.5.M5:25	Identifies or describes representations or elements of representations that best display a given set of data or situation, consistent with the representations required in M5:23. Organizes and displays data using line plots, bar graphs, tally charts and frequency charts, or tables to answer question related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.
Fly by Math	VT	MA.5.M5:28	In response to a teacher- or student-generated question or hypothesis, collects appropriate data, organizes the data, appropriately displays/represents numerical and/or categorical data, analyzes the data to draw conclusions about the questions or hypothesis being tested, and when appropriate makes predictions, asks new questions, or makes connections to real-world situations.
Line Up with Math	VT	MA.5.M5:16	Determines elapsed and accrued time to the nearest minute.
Line Up with Math	VT	MA.5.M5:20	Demonstrates a conceptual understanding of linear relationships (y = kx) as a constant rate of change by identifying, describing, or comparing situations that represent constant rates of change.
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		Smart Ski	es
		2004 Mathem	
		Grade Expect	
Vermont Mathemat	ics	•	
Grade 6			
Activity/Lesson	State	Standards	
			Organizes and displays data using bar graphs, tables, frequency tables, line plots, circle graphs, and stem-and-leaf plots to answer question related to the data, to analyze the data to formulate or justify conclusions, or to make
Fly by Math	VT	MA.6.M6:25	predictions.

Demonstrates conceptual understanding of linear relationships (y = kx; y = mx + b) as a constant rate of change by constructing or interpreting graphs of real occurrences and describing the slope of linear relationships (faster, slower, greater, or smaller) in a variet problem situations; and describes how change in the value of one variable relates to change the value of a second variable in problem situations with constant rates of change. Smart Skies 2004 Mathematics Grade Expectations Vermont Mathematics Grade Expectations Vermont Mathematics Grade T Activity/Lesson State Standards Uses properties of angle relationships resultifunction from two or three intersecting lines (adjacent angles, vertical angles, straight angles, or an relationships formed by two nonparallel lines by a transversal), or two parallel lines cut by transversal to solve problems. Identifies or describes representations or elements of representations that best display given set of data or situation, consistent with representations required in M7:23. Organizes and displays data using line graphs or histograms, bar graphs, tables, frequency tables, line plots, and stem-and-leaf plots to answer question related to the data, to analy the data to formulate or justify conclusions, o make predictions. Fly by Math VT MA.7.M7:25 MA.7.M7:25 MA.7.M7:26 MA.7.M7:26 MA.7.M7:27 MA.7.M7:27 MA.7.M7:28 MA.7.M7:28 MA.7.M7:29 MA.7.M7:29 MA.7.M7:29 MA.7.M7:29 MA.7.M7:29 MA.7.M7:29 MA.7.M7:29 MA.7.M7:29 MA.7.M7:29 MA.7.M7:25 MA.7.M7:25 MA.7.M7:26 MA.7.M7:26 MA.7.M7:27 MA.7.M7:28 MA.7.M7:29 MA.7.M				In response to a teacher- or student-generated question, makes a hypothesis, collects appropriate data, organizes the data, appropriately displays/represents numerical and/or categorical data, analyzes the data to draw conclusions about the questions or hypothesis being tested, and when appropriate makes predictions, asks new questions, or
Demonstrates conceptual understanding of linear relationships (y = kx; y = mx + b) as a constant rate of change by constructing or interpreting graphs of real occurrences and describing the slope of linear relationships (faster, slower, greater, or smaller) in a variet problem situations; and describes how chang in the value of one variable relates to change the value of a second variable in problem situations with constant rates of change. Smart Skles 2004 Mathematics Grade Expectations Vermont Mathematics Grade Expectations Vermont Mathematics Uses properties of angle relationships resulting from two or three intersecting lines (adjacent angles, vertical angles, straight angles, or an relationships formed by two nonparallel lines by a transversal), or two parallel lines cut by transversal to solve problems. Identifies or describes representations or elements of representations that best display given set of data or situation, consistent with representations required in M7:23. Organizet and displays data using line graphs or histograms, bar graphs, tables, frequency tables, line plots, and stem-and-leaf plots to answer question related to the data, to anally the data to formulate or justify conclusions, o make predictions. Fly by Math VT MA.7.M7:25 In response to a teacher- or student-generate question, makes a hypothesis, collects appropriated data, analyzes the data, appropriately displays/represents numerical and/or categorical data, analyzes the data to draw conclusions about the questions or hypothesis being tested, and when appropriated and the proper in the data to draw conclusions about the questions or hypothesis being tested, and when appropriated and when appropriated to the data, and when appropriated to the data to draw conclusions about the questions or hypothesis being tested.	Fly by Math	VT	MA.6.M6:28	makes connection to real-world situations.
Standards Uses properties of angle relationships resulting from two or three intersecting lines (adjacent angles, vertical angles, straight angles, or an relationships formed by two nonparallel lines by a transversal), or two parallel lines cut by transversal to solve problems. Identifies or describes representations or elements of representations that best display given set of data or situation, consistent with representations required in M7:23. Organizes and displays data using line graphs or histograms, bar graphs, tables, frequency tables, line plots, and stem-and-leaf plots to answer question related to the data, to analy; the data to formulate or justify conclusions, o make predictions. In response to a teacher- or student-generate question, makes a hypothesis, collects appropriated data, organizes the data, appropriately displays/represents numerical and/or categorical data, analyzes the data to draw conclusions about the questions or hypothesis being tested, and when appropria		VT	MA.6.M6:20	linear relationships (y = kx; y = mx + b) as a constant rate of change by constructing or interpreting graphs of real occurrences and describing the slope of linear relationships (faster, slower, greater, or smaller) in a variety of problem situations; and describes how change in the value of one variable relates to change in the value of a second variable in problem
Standards Uses properties of angle relationships resulting from two or three intersecting lines (adjacent angles, vertical angles, straight angles, or an relationships formed by two nonparallel lines by a transversal), or two parallel lines cut by transversal to solve problems. Identifies or describes representations or elements of representations that best display given set of data or situation, consistent with representations required in M7:23. Organizes and displays data using line graphs or histograms, bar graphs, tables, frequency tables, line plots, and stem-and-leaf plots to answer question related to the data, to analy; the data to formulate or justify conclusions, o make predictions. In response to a teacher- or student-generate question, makes a hypothesis, collects appropriated data, organizes the data, appropriately displays/represents numerical and/or categorical data, analyzes the data to draw conclusions about the questions or hypothesis being tested, and when appropria	·			5
Vermont Mathematics Grade 7 Activity/Lesson State Standards Uses properties of angle relationships resulting from two or three intersecting lines (adjacent angles, vertical angles, straight angles, or an relationships formed by two nonparallel lines by a transversal), or two parallel lines cut by transversal), or two parallel lines cut by transversal to solve problems. Identifies or describes representations or elements of representations that best display given set of data or situation, consistent with representations required in M7:23. Organizes and displays data using line graphs or histograms, bar graphs, tables, frequency tables, line plots, and stem-and-leaf plots to answer question related to the data, to analythe data to formulate or justify conclusions, of make predictions. Fly by Math VT MA.7.M7:25 MA.7.M7:25 MA.7.M7:25 In response to a teacher- or student-generate question, makes a hypothesis, collects appropriate data, organizes the data, appropriated data, analyzes the data to draw conclusions about the questions or hypothesis being tested, and when appropria				
Vermont Mathematics Grade 7 Activity/Lesson State Standards Uses properties of angle relationships resulting from two or three intersecting lines (adjacent angles, vertical angles, straight angles, or an relationships formed by two nonparallel lines by a transversal), or two parallel lines cut by transversal to solve problems. Identifies or describes representations or elements of representations that best display given set of data or situation, consistent with representations required in M7:23. Organizes and displays data using line graphs or histograms, bar graphs, tables, frequency tables, line plots, and stem-and-leaf plots to answer question related to the data, to analythe data to formulate or justify conclusions, o make predictions. Fly by Math VT MA.7.M7:25 MA.7.M7:25 In response to a teacher- or student-generate question, makes a hypothesis, collects appropriately displays/represents numerical and/or categorical data, analyzes the data to draw conclusions about the questions or hypothesis being tested, and when appropria				
Grade 7 Activity/Lesson State Standards Uses properties of angle relationships resulting from two or three intersecting lines (adjacent angles, vertical angles, straight angles, or an relationships formed by two nonparallel lines by a transversal), or two parallel lines cut by a transversal to solve problems. Identifies or describes representations or elements of representations that best display given set of data or situation, consistent with representations required in M7:23. Organizes and displays data using line graphs or histograms, bar graphs, tables, frequency tables, line plots, and stem-and-leaf plots to answer question related to the data, to analyst the data to formulate or justify conclusions, o make predictions. Fly by Math VT MA.7.M7:25 MA.7.M7:25 MA.7.M7:25 In response to a teacher- or student-generate question, makes a hypothesis, collects appropriately displays/represents numerical and/or categorical data, analyzes the data to draw conclusions about the questions or hypothesis being tested, and when appropria	Vermont Mathematic	re	Grade Expecta	ations
Activity/Lesson State Standards Uses properties of angle relationships resulting from two or three intersecting lines (adjacent angles, vertical angles, straight angles, or an relationships formed by two nonparallel lines by a transversal), or two parallel lines cut by a transversal to solve problems. Identifies or describes representations or elements of representations that best display given set of data or situation, consistent with representations required in M7:23. Organizes and displays data using line graphs or histograms, bar graphs, tables, frequency tables, line plots, and stem-and-leaf plots to answer question related to the data, to analyze the data to formulate or justify conclusions, on make predictions. Fly by Math VT MA.7.M7:25 MA.7.M7:25 In response to a teacher- or student-generate question, makes a hypothesis, collects appropriate data, organizes the data, appropriate data, analyzes the data to draw conclusions about the questions or hypothesis being tested, and when appropria		,3		
Uses properties of angle relationships resulting from two or three intersecting lines (adjacent angles, vertical angles, straight angles, or an relationships formed by two nonparallel lines by a transversal), or two parallel lines cut by a transversal to solve problems. Identifies or describes representations or elements of representations that best display given set of data or situation, consistent with representations required in M7:23. Organizes and displays data using line graphs or histograms, bar graphs, tables, frequency tables, line plots, and stem-and-leaf plots to answer question related to the data, to analythe data to formulate or justify conclusions, of make predictions. Fly by Math VT MA.7.M7:25 MA.7.M7:25 In response to a teacher- or student-generate question, makes a hypothesis, collects appropriate data, organizes the data, appropriately displays/represents numerical and/or categorical data, analyzes the data to draw conclusions about the questions or hypothesis being tested, and when appropria		State	Standards	
elements of representations that best display given set of data or situation, consistent with representations required in M7:23. Organizes and displays data using line graphs or histograms, bar graphs, tables, frequency tables, line plots, and stem-and-leaf plots to answer question related to the data, to analyze the data to formulate or justify conclusions, of make predictions. Fly by Math VT MA.7.M7:25 MA.7.M7:25 In response to a teacher- or student-generate question, makes a hypothesis, collects appropriate data, organizes the data, appropriately displays/represents numerical and/or categorical data, analyzes the data to draw conclusions about the questions or hypothesis being tested, and when appropria	Fly by Math	VT	MA.7.M7:9	Uses properties of angle relationships resulting from two or three intersecting lines (adjacent angles, vertical angles, straight angles, or angle relationships formed by two nonparallel lines cut by a transversal), or two parallel lines cut by a transversal to solve problems.
Fly by Math VT MA.7.M7:25 make predictions. In response to a teacher- or student-generate question, makes a hypothesis, collects appropriate data, organizes the data, appropriately displays/represents numerical and/or categorical data, analyzes the data to draw conclusions about the questions or hypothesis being tested, and when appropria				elements of representations that best display a given set of data or situation, consistent with the representations required in M7:23. Organizes and displays data using line graphs or histograms, bar graphs, tables, frequency tables, line plots, and stem-and-leaf plots to answer question related to the data, to analyze
In response to a teacher- or student-generate question, makes a hypothesis, collects appropriate data, organizes the data, appropriately displays/represents numerical and/or categorical data, analyzes the data to draw conclusions about the questions or hypothesis being tested, and when appropria	Fly by Math	VT	MA.7.M7:25	
Fly by Math VT MA.7.M7:28 makes predictions, asks new questions, or makes connection to real-world situations.	Fly by Math	VT	MA.7 M7·28	appropriate data, organizes the data, appropriately displays/represents numerical and/or categorical data, analyzes the data to draw conclusions about the questions or hypothesis being tested, and when appropriate makes predictions, asks new questions, or

	1		
			Uses properties of angle relationships resulting
			from two or three intersecting lines (adjacent
			angles, vertical angles, straight angles, or angle
			relationships formed by two nonparallel lines cut
			by a transversal), or two parallel lines cut by a
Line Up with Math	VT	MA.7.M7:9	transversal to solve problems.
			Demonstrates conceptual understanding of
			linear relationships (y = kx; y = mx + b) as a
			constant rate of change by solving problems
			involving the relationship between slope and
			rate of change, by describing the meaning of
			slope in concrete situations, or informally
			determining the slope of a line from a table or
			graph; and distinguishes between constant and
			varying rates of change in concrete situations
			represented in tables or graphs; or describes
			how change in the value of one variable relates
			to change in the value of a second variable in
			problem situations with constant rates of
Line Line with Math	VT	MA.7.M7:20	
Line Up with Math	VT	IVIA.7.IVI7.20	change.
		Smart Skies	
		2004 Mathema	
Vermont Mathematic		Grade Expectat	ions
Grade 8	· S		
Activity/Lesson	State	Standards	
Activity/Lesson	State	Standards	Models situations geometrically. Uses properties
			and attributes of lines, angles, and two- and
Cl., b., Math	VT	NAA O NAO-O	three-dimensional shapes) to formulate and
Fly by Math	VT	MA.8.M8:9	solve problems.
			Organizes and displays data using scatter plots
			to answer questions related to the data, to
			analyze the data to formulate or justify
			conclusions, to make predictions, or to solve
			problems; or identifies representations or
			elements of representations that best display a
			given set of data or situation, consistent with the
Fly by Math	VT	MA.8.M8:25	representations required in M8: 23.
			In response to a teacher- or student-generated
			question, makes a hypothesis, collects
			appropriate data, organizes the data,
			appropriately displays/represents numerical
			and/or categorical data, analyzes the data to
			draw conclusions about the questions or
			hypothesis being tested, and when appropriate
			to make predictions, asks new questions, or
			makes connection to real-world situations. (See
Fly by Math	VT	MA.8.M8:28	also GLEs M24, M25 and M29.)
i ij by widdi	V 1	1717 (.O.1710.20	Models situations geometrically. Uses properties
			and attributes of lines, angles, and two- and
			three-dimensional shapes) to formulate and
Line Up with Math			
	VT	MA.8.M8:9	solve problems.

Smart Skies 2004 Mathematics Grade Expectations				Demonstrates conceptual understanding of linear relationships (y = kx; y = mx + b) as a constant rate of change by solving problems involving the relationship between slope and rate of change; informally and formally determining slopes and intercepts represented in graphs, tables, or problem situations; or describing the meaning of slope and intercept in context; and distinguishes between linear relationships (constant rates of change) and nonlinear relationships (varying rates of change) represented in tables, graphs, equations, or problem situations; or describes how change in the value of one variable relates to change in the value of a second variable in problem situations with constant and varying rates of
Commonst Mathematics Carade Sy-12	Line Up with Math	VT	MA.8.M8:20	, ,
Commonst Mathematics Crade Sy-12				
Vermont Mathematics Grades 9-12 Activity/Lesson State Standards Uses the attributes, geometric properties, or theorems involving lines, polygons and circle (e.g., parallel, perpendicular, bisectors, diagonals, radii, diameters, central angles, a length excluding radians), the Pythagorean MA.9- Theorem, Triangle Inequality Theorem to so mathematical situations or problems in conte Organizes and displays data using scatter phistograms, or frequency distributions to ans questions related to the data, to analyze the data to formulate or justify conclusions, make predictions, or to solve problems; or identifier representations or elements of representation that best display a given set of data or situations or situations or display and situations required MA.9- Theorem, Triangle Inequality Theorem to sonte organizes and displays data using scatter phistograms, or frequency distributions to ans questions related to the data, to analyze the data to formulate or justify conclusions, make predictions, or to solve problems; or identifier representations or elements of representation that best display a given set of data or situations or elements of representations required MHS: 23. Uses the attributes, geometric properties, or theorems involving lines, polygons and circle (e.g., parallel, perpendicular, bisectors, diagonals, radii, diameters, central angles, a length excluding radians), the Pythagorean				
Vermont Mathematics Grades 9-12 Activity/Lesson State Standards Uses the attributes, geometric properties, or theorems involving lines, polygons and circle (e.g., parallel, perpendicular, bisectors, diagonals, radii, diameters, central angles, a length excluding radians), the Pythagorean Theorem, Triangle Inequality Theorem to so mathematical situations or problems in contect of the data, to analyze the data to formulate or justify conclusions, make predictions, or to solve problems; or identific representations or elements of representations or elements of representations and that best display a given set of data or situated to the data, to analyze the data to best display a given set of data or situated to the destance of				
Grades 9-12 Activity/Lesson State Uses the attributes, geometric properties, or theorems involving lines, polygons and circle (e.g., parallel, perpendicular, bisectors, diagonals, radii, diameters, central angles, a length excluding radians), the Pythagorean Theorem, Triangle Inequality Theorem to so mathematical situations or problems in control Organizes and displays data using scatter phistograms, or frequency distributions to ans questions related to the data, to analyze the data to formulate or justify conclusions, make predictions, or to solve problems; or identific representations or elements of representations that best display a given set of data or situal consistent with the representations required MHS: 23. Which is a stributes, geometric properties, or theorems involving lines, polygons and circle (e.g., parallel, perpendicular, bisectors, diagonals, radii, diameters, central angles, a length excluding radians), the Pythagorean	Vermont Mathemat	ics	O. ado Expoor	
Uses the attributes, geometric properties, or theorems involving lines, polygons and circle (e.g., parallel, perpendicular, bisectors, diagonals, radii, diameters, central angles, a length excluding radians), the Pythagorean Theorem, Triangle Inequality Theorem to so mathematical situations or problems in contons or Organizes and displays data using scatter phistograms, or frequency distributions to ans questions related to the data, to analyze the data to formulate or justify conclusions, mak predictions, or to solve problems; or identifier representations or elements of representations or elements of representations or elements of that best display a given set of data or situal consistent with the representations required MA.9- Fly by Math VT MA.9- Tely by Math VT MA.9- Uses the attributes, geometric properties, or theorems involving lines, polygons and circle (e.g., parallel, perpendicular, bisectors, diagonals, radii, diameters, central angles, a length excluding radians), the Pythagorean	Grades 9-12			
theorems involving lines, polygons and circle (e.g., parallel, perpendicular, bisectors, diagonals, radii, diameters, central angles, a length excluding radians), the Pythagorean Theorem, Triangle Inequality Theorem to so Theorem to State Th	Activity/Lesson	State	Standards	
Organizes and displays data using scatter phistograms, or frequency distributions to ans questions related to the data, to analyze the data to formulate or justify conclusions, mak predictions, or to solve problems; or identified representations or elements of representations that best display a given set of data or situated consistent with the representations required MHS: 23. Whath VT 12.MHS:25 MHS: 23. Uses the attributes, geometric properties, or theorems involving lines, polygons and circle (e.g., parallel, perpendicular, bisectors, diagonals, radii, diameters, central angles, a length excluding radians), the Pythagorean	Fly by Math	VT		theorems involving lines, polygons and circles (e.g., parallel, perpendicular, bisectors, diagonals, radii, diameters, central angles, arc
theorems involving lines, polygons and circle (e.g., parallel, perpendicular, bisectors, diagonals, radii, diameters, central angles, a length excluding radians), the Pythagorean			MA.9-	Organizes and displays data using scatter plots, histograms, or frequency distributions to answer questions related to the data, to analyze the data to formulate or justify conclusions, make predictions, or to solve problems; or identifies representations or elements of representations that best display a given set of data or situation, consistent with the representations required in MHS: 23.
			MA.9-	Uses the attributes, geometric properties, or theorems involving lines, polygons and circles (e.g., parallel, perpendicular, bisectors, diagonals, radii, diameters, central angles, arc

			Demonstrates conceptual understanding of
			linear relationships and linear and nonlinear
			functions (including $f(x) = ax^2$, $f(x) = ax^3$,
			absolute value function, exponential growth)
			through analysis of intercepts, domain, range
		MA.9-	and constant and variable rates of change in
Line Up with Math	VT	12.MHS:20	mathematical and contextual situations.